Proposed Service Quality Measurement	Absolute Standard	NOTES
C. Switching Performance - Index Plan - DMS100		
a) Machine Access	_Threshold_	(See explanation in notes above)
· Dial Tone Speed	33.34	
· Receiver Queue	0.00	
b) Machine Switching		
· Transmitter Time-outs	16.00	
· Errors	50.00	
· Equal Access	100.00	
· Equipment Outage	1.00	
· RLCM RSC Emergency Stand Alone	5.00	
V. Time to Restore		
A. INTERCONNECTION - MESSAGE TRUNKS:		
1. Time to Restore - INTERCONNECTION/MESSAGE TRUNKS: **RNYT** · Mean Time to Repair · % > 2 hours (if blocking) · % > 4 hours · % > 12 hours · % > 24 hours	LCUG MR1 @parity	Comparison to Switched Access Feature Group D.
B. UNBUNDLED ELEMENTS:		
1. Time to Restore - UNE - POTS : **RNYT** · Mean Time to Repair - Dispatch Out · Mean Time to Repair - No Dispatch · % Out of Service > 4 hours · % OOS > 12 hours · % OOS > 24 hours · % All Troubles Cleared w/in 24 hours	LCUG MR1 @parity	Compared to POTS Retail Services excludes subsequent reports. Excludes CPE.
2. Time to Restore - UNE - Specials **RNYT** · Mean Time to Repair · % OOS > 4 hours · % OOS > 24 hours	LCUG MR1 @parity	Compared to Special (Designed) Retail Services. (Tracked separately for DS0, DS1 and DS3)

Proposed Service Quality Measurement	Absolute Standard	NOTES
C. RESALE:		
1. Time to Restore - POTS Services **RNYT** · Mean Time to Repair **RFTR** · % Out of Service > 4 hours · % OOS > 12 hours · % OOS > 24 hours · % OOS <24 hours **RFTR** · % All Troubles Cleared w/in 24 hours · % Troubles (excluding OOS) <72 hours **RFTR**	LCUG MR1 @parity	Compared to POTS Retail Services
2. Time to Restore - Specials **RNYT** · Mean Time to Repair · % trouble cleared > 4 hours · % trouble cleared > 24 hours	LCUG MR1 @parity	Compared to Special (Designed) Retail Services. (Tracked separately for DS0, DS1 and DS3)
VI. _On Time Commitment_		
A. UNBUNDLED ELEMENTS:		
1. On Time Commitment - UNE - POTS **RNYT** · % Missed Repair Appointments - Dispatch Out · % Missed Repair Appointments - No Dispatch	LCUG MR4 @parity	Compared to POTS Retail Services
2. On Time Commitment - UNE - Specials **RNYT** · % Missed Repair Appointment	LCUG MR4 @parity	Compared to Special (Designed) Retail Svcs. (Tracked separately for DS0, DS1 and DS3)
B. RESALE:		
1. On Time Commitment - Resale - POTS Services **RNYT RFTR** · % Missed Repair Appointment - Dispatch Out · % Missed Repair Appointment - No Dispatch	LCUG MR4 @parity	Compared to POTS Retail Services
2. On Time Commitment - Resale - Specials **RNYT** · % Missed Repair Appointment	LCUG MR4 @parity	Compared to Special (Designed) Retail Services. (Tracked separately for DS0, DS1 and DS3)

Proposed Service Quality Measurement	Absolute Standard	NOTES
VI. *Maintenance Quality:*		
A. INTERCONNECTION - MESSAGE TRUNKS:		
1. Maintenance Quality - TC **INTERCONNECTION/MESSAGE TRUNKS RNYT** · Repeat Reports w/in 30 days	LCUG MR2 @parity	Comparison to all trunks (BA-NY and FG-D)
B. UNBUNDLED ELEMENTS:		
1. Maintenance Quality - UNE - POTS : **RNYT** · Repeat Reports w/in 30 days	LCUG MR2 @parity	Compared to POTS Retail Services Includes subsequent reports. Excludes CPE
2. Maintenance Quality - UNE - Specials **RNYT** · Repeat Reports w/in 30 days	LCUG MR2 @parity	Compared to Special (Designed) Retail Services. Tracked separately for DS0, DS1 and DS3)
C. RESALE:		
1. Maintenance Quality - Resale - POTS Services **RNYT** · Repeat Reports w/in 30 days	LCUG MR2 .@parity	Compared to POTS Retail Services **RFTR** investigating report capabilities, repeats flagged reporting unclear
2. Maintenance Quality - Resale - Specials **RNYT** · Repeat Reports w/in 30 days	LCUG MR2 @parity	Compared to Special (Designed) Retail Services. (Tracked separately for DS0, DS1 and DS3)
VII. *Completions/Jeopardy Reports:*		
A. INTERCONNECTION - MESSAGE TRUNKS:		
1. Timeliness of Notice of Trouble Closure Status/Jeopardy - TC INTERCONNECTION/MESSAGE TRUNKS **NR** a) Trouble Closure Status: Management System updated by technician. TC to monitor status.	NO LCUG @at trouble closure	Trouble Management System is updated by technician. TC to monitor status. Additionally, Trouble Closure Status via call to TC from NYT CATC with optional serial # or initials provided by carrier reporting the trouble

Proposed Service Quality Measurement	Absolute Standard	NOTES
UNBUNDLED ELEMENTS		
1. Timeliness of Notice of Trouble Closure - *Interim Process:* **NR** a) Trouble Closure Status: Trouble Management System updated by technician. TC must monitor status. Additionally, Trouble Closure Status via call to TC from NYT CATC	NO LCUG	
2. Timeliness of Notice of Trouble Closure - *Under Development:* a) Trouble Closure Status: Trouble Management System updated by technician. Secure WEB page updated with closed Troubles - Every 2 hrs. b) Jeopardy Reports: Summary of Troubles that may not be cleared by the commitment Time. Secure WEB page updated at least every 2 hours	NO LCUG @2 hours	
C. RESALE:		
1. Timeliness of Notice of Trouble Closure *Until 12/31/97:* **NR** a) Trouble Closure Status/Jeopardy: Trouble Management System updated by technician. TC must monitor status RFTR provides hourly faxed report of trouble closure	NO LCUG	
2. Timeliness of Notice of Trouble Closure *After 12/31/97:* a) Trouble Closure Status: Trouble Management System updated by technician. Secure WEB page updated with closed Troubles - Every 2 hours b) Jeopardy Reports: Summary of Troubles that may not be cleared by the commitment Time. Secure WEB page updated at least every 2 hours	NO LCUG @2 hours	
VIII *TC Performance Indicators*		
A. ALL MAINTENANCE ACTIVITY:		
1. TC Trouble Administration Quality: Trunk, UNE, Resale **RNYT**		Used as indicators of TC performance and customer communication to identify areas for discussion and possible improvement.

- % CPE Troubles Found
- % No Trouble Found
- % No Customer Access Available

Proposed Service Quality Measurement	Absolute Standard	NOTES
Billing Process: **I.** *Timeliness of Delivery*		
A. TIMELINESS OF CARRIER BILL DELIVERY: **NR** 1. Timeliness of Carrier Bill Delivery Trunks 2. Timeliness of Carrier Bill Delivery Resale 3. Timeliness of Carrier Bill Delivery UNE	LCUG BI2 @98% <10 Business Days	Bill ready for distribution
B. TIMELINESS OF USAGE INFORMATION: 1. Timeliness of Usage Information - Ubundled Netw **RNYT** · % Usage sent in 3 business days · % Usage sent in 4 business days · % Usage sent in 5 business days · % Usage sent in 8 business days 2. Timeliness of Usage Information - Resale **RNYT** · % Usage sent in 3 business days · % Usage sent in 4 business days · % Usage sent in 5 business days · % Usage sent in 8 business days	LCUG BI1 @parity	Usage records(both end user usage records and carrier minutes of use usage records) will be provided to TCs each business day. The usage process starts with collection of usage information from the switch. Most offices in have this information teleprocessed to the data center. Other offices transport usage over the road to the data center. Not all offices poll usage every business day. Weekend and holiday usage is captured on the next business day. Usage for all TCs is collected at the same time as the ILECs and all TCs usage sent is compared to ILEC usage sent.
C. RESALE: ·	LCUG BI1 @parity	Same as unbundled usage
II. *Accuracy*		
Billing Accuracy: INTERCONNECTION - MESSAGE TRUNKS, UNE and Resale: **NR**	LCUG BI3&4 standard to be developed	1. NYT monitors the level of service order errors with the potential of delaying usage feeds
NR (CLECSs to monitor) **NR** (CLECSs to monitor)	XX errored records/million XX missing records/million	2. NYT monitors the timeliness of the usage fed to through the process on a daily basis 3. NYT offers its Reseller and CLEC customers the option of receiving EMI usage feeds through the Network Data Mover (NDM) process to increase the timeliness of delivery.

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posed Service Quality Measurement	Absolute Standard	NOTES
rator Services Processes and Databases:		If provided by ILEC
Operator Timeliness		
. Operator Assistance Calls (Call Completion Services) **NR** 1. Average Speed of Answer	LCUG OS/DA1 @parity	NYT's Operator Call Distribution Systems handle all traffic in a first come first serve basis, regardless of TC or originating trunk group. (Identification of Carrier for branding and billing does not impact call distribution.) NYT measures Average speed of answer for Operator Services and utilizes individual state standards for Speed of Answer.
B. Directory Assistance Calls ❋**NR** 1. Average Speed of Answer	LCUG OS/DA1 @parity	
C. Performance LIDB, routing, OS/DS platforms **NR** 1. LIDB performance	LCUG IUE2 @parity	
a) LIDB reply rate to all query attempts	Bellcore produced standard	Not within NYT Control
b) LIDB query time-out	Bellcore produced standard	Not within NYT Control
c) Unexpected data values in replies for all LIDB queries	2%	Acceptable at 2%
d) Group troubles in all LIDB queries Delivery to OS platform -	2%	Acceptable at 2%
II., Performance 800 database	*Bellcore produced standard LCUG IUE2*	
III. Performance AIN a)	*Bellcore produced standard LCUG IUE2*	

Product Interval Summary

Product	Interval
EXPANDED INTERCONNECTION/COLLOCATION:	

INTERCONNECTION/MESSAGE TRUNKS (DS1 Systems):
 (a) Establishment of New Trunk Groups:
     (i) 1 - 96 Trunks (facilities available)
 	
     (ii) > 96 Trunks
 (b) Additions to Existing Trunk Groups:
     (i) 1 - 96 Trunks (facilities available)
 	
     (ii) > 96 Trunks
   c Establishment of new or additions to existing trunk groups
     (i) 1 - 192 Trunks
	
	 40 Days
	 RFTR 45 Days
	 Negotiated
	
	 18 Days
	 RFTR 30 Days
	 Negotiated
	 18 Days
	 (RFTR: see above)

Physical Collocation Space
   (a) Where space is available
   (b) Where space is Not available
     (i) Confirmation of space unavailability
     (ii) From Confirmation
	
	 76 Days
	
	 10 Days
	 Negotiated

Virtual Collocation Space
   (a) Where space is available
   (b) Where space is Not available
     (i) Confirmation of space availability
 	
     (ii) From Confirmation
	
	 Negotiated
	
	 8 Days
	 RFTR 15 Days
	 Negotiated

Number Portability:	
Interim Number Portability: Remote Call Forward - Associated with Loop Hot Cut	5 days

Remote Call Forwarding ("RCFs")or INP-T if Facilities (trunking) are already in place and Facilities and/or Ports on NYT and TC switches are available: (Stand alone number portability orders only, without unbundled links). If Electronic:
   (a) 1-9 Lines/numbers
   (b) 10-19 Lines
   (c) 20-100 Lines, and if fac's are available
 	
   (d) Other
 Effective 1/1/98:
   (a) 1-19 Lines
	
	 2 days (RFTR 5 days)
	 5 Days
	 10 Days
	 RFTR negotiated
	 Negotiated
	
	 3 Days
	 RFTR 5 Days

Basic Definition: POTS are defined as all non-design circuits that originate an OE (Switch Office Equipment) and terminate at a customer's premise. All other services are considered specials.

Product	Interval
Unbundled Elements	
Basic POTS Elements/Services:	
Switch Port - After establishment of Switch: (n/a for RFTR)	
(a) 1-9 Lines (per order)	2 Days
(b) 10-19 Lines (per order)	5 Days
(c) 20-100 Lines, and if fac's are available	10 Days
(d) Other	Negotiated
Effective 1/1/98:	
(a) 1-19 Lines	2 Days
Feature Change (UNE): (n/a for RFTR)	
(a) Basic Features: Call Waiting, Call Forwarding & 3 Way Calling:	
· Received by 3 p.m. (EST)	Same Day
· Received after 3 p.m. (EST)	Next Day
(b) Other Features: Caller ID	4 Days
(c) Suspend, Block or Restore Orders	Same Day
(d) Disconnect Orders: (Translation change - no dispatch)	4 (business) Hours
Basic Link (SVGAL) - Hot Cut	5 days
Basic Link (SVGAL) - New Line	
(a) 1 - 5 lines	Smarts Clock RFTR 5 days
(b) 6 - 9 lines	10 days
(c) 10+ lines	negotiated
Premium LINK - Two-Wire Digital New Line	RFTR all negotiated
(a) 1 - 5 lines	Smarts Clock
(b) 6 - 9 lines	10 days
(c) 10 + lines	negotiated
Basic Rate Interface - ISDN Port (n/a for RFTR)	
(a) Local: 1 - 12 lines	8 Days
(b) Virtual: 1 - 12 lines	12 Days
(c) Over 12 lines	Negotiated
NID (Customer Premises - Network Interface) (n/a for RFTR)	Smarts Clock
House & Riser - New Install (deregulated for RFTR)	Smarts Clock
House & Riser - Hot Cut (deregulated for RFTR)	5 Days
UNE - POTS Combinations: Basic Local Service - with or without OS/DA (after completion of joint planning process for Switch Elements) (n/a for RFTR)	
Flip to CLEC	2 days or per FCC order
New Lines:	
(a) 1 - 5 lines	Smarts Clock
(b) 6 - 9 lines	10 days

(c) 10 + lines	negotiated

Product	Interval
UNE - Special Services:	
LINK Products:	

Primary Rate Interface - ISDN Port (n/a for RFTR)
    (a) 1 - 12 lines
    (b) Over 12 lines
	
	12 Days
	Negotiated

Digital High Capacity Links:
    (a) 1.544 Mbps (DS1) Links:
        £ 10 Links (with facilities)
        £ 10 Links (without facilities)
        > 10 Links
    (b) 45 Mbps (DS3) Links
	RFTR all negotiated
	
	6 days
	12 days
	negotiated
	negotiated

Extended Links: (n/a for RFTR)
    (a) 1 - 9 Links
    (b) 10 or more Links
	
	16 Days
	Negotiated

SS7 A or B/D Links:	Negotiated

UNE - Interoffice Facilities (n/a for RFTR)
    (a) When CIP (Customer Interface Panel) required
    (b) All other (no CIP placement required)
	
	30 Days
	15 Days

DIRECTORY ASSISTANCE ("DA"):	
1. TC's customer's information incorporated into database	2 Days

2. DA Trunks to TOPS Tandem Provisioning Intervals: (RFTR has no tandem)
    (a) If Facilities are available
    (b) If Facilities are not available
	RFTR all negotiated
	
	60 Days
	Negotiated

LINE IDENTIFICATION DATABASE ("LIDB"): (n/a for RFTR)	
1. TC's customer's information incorporated into database	2 Days
OPERATOR SERVICES: (n/a for RFTR)	

1. Provisioning of FG C-type Modified Operator Services Signaling Trunks:
    a) If Facilities are available:
    b) If Facilities are not available:
	
	60 Days
	Negotiated

911/E911 SERVICE:	
1. TC's customer's information incorporated into the PS/ALI database	2 Days

2. Provisioning of 911/E911 MF Trunks:
    a) If Facilities are available:
    b) Port Establishment
	RFTR all negotiated
	60 Days
	included in above 60 Days

Product	Interval
Retail/Resale Services	
Features:	
1. Feature Change (Resale or UNE):	
(a) Basic Features: Call Waiting, Call Forwarding & 3 Way Calling:	RFTR: 1-25 Next Day 26+ Negotiated
· Received by 3 p.m. (EST)	Same day
· Received after 3 p.m. (EST)	Next Day
(b) Other Features: Voice Mail, Caller ID	4 days RFTR: 1-25 2 days 26+ Negotiated
(c) Remote Call Forwarding	3 days RFTR: 1-25 Next Day 26+ Negotiated
(d) Suspend, Block or Restore Orders	Same day RFTR Next Day
(e) Disconnect Orders: (Translation change - no dispatch)	4 (business) Hours RFTR Next Day

Basic POTS Services:	
1. Change Existing Account to CLEC Resale Account: Residence or Business Lines, including Analog Centrex, and PBX trunks (a) Change existing Account to Resale	2 days or per FCC order RFTR: 1-10 2 days 11-25 3 days 26+ Negotiated

2. New Lines: Residence or Business Lines, and Analog Centrex,
   (a) 1 - 5 lines
   (b) 6 - 9 lines
   (c) 10+ lines
   (d) RFTR Res 1-3 or Bus 1-9 lines
   (e) RFTR all others
	
	Smarts Clock
	10 days
	negotiated
	5 days
	negotiated

3. ISDN - 2 wire digital
   (a) Local: 1 - 12 lines
   (b) Virtual: 1 - 12 lines
   (c) Over 12 lines
   (d) RFTR 1-9 lines
   (e) RFTR 10+ lines
	
	9 days
	12 days
	negotiated
	5 days
	negotiated

4. PBX Trunks
   (a) 1 - 12 circuits
   (b) 13 - 24 circuits
   (c) 25 - 38 cicuits
	
	9 days
	14 days
	18 days

(d) 39 - 50 circuits	22 days
(e) Over 50	negotiated
(f) RFTR 1-9 circuits	5 days
(g) RFTR 10+ circuits	negotiated
5. DID Trunks:	
(a) 1 - 8 Trunks	14 days
(b) Over 8 Trunks	negotiated
(c) RFTR all quantities	negotiated
6. Disconnect Orders - dispatch required: (RFTR does not dispatch)	Smarts Clock

Product	Interval
Special Services:	
1. Analog Private Line :	
(a) 1 - 12 circuits	9 days
(b) 13 - 24 circuits	14 days
(c) 25 - 38 cicuits	18 days
(d) 39 - 50 circuits	22 days
(e) Over 50	negotiated
(f) RFTR 1-24 circuits	7 days
(g) RFTR 25+ circuits	negotiated
3. Digital Centrex	
(a) Local: 1 - 12 lines	12 days
(b) Over 12 lines	negotiated
(c) RFTR 1-9 lines	5 days
(d) RFTR 10+ lines	negotiated
3. ISDN - Primary Rate (1.54 Mbps)	
(a) 1 - 23 lines	12 days
(b) Over 23 lines	negotiated
(c) RFTR 1-9 lines	5 days
(d) RFTR 10+ lines	negotiated
5. Digital High Capacity services:	
(a) 1.544 Mbps (DS1) - Local Loop £ 10 with facility	6 days
(b)	RFTR 5 days
£ 10 without facility	12 days
	RFTR Negotiated
> 10	Negotiated
(a) 45 Mbps (DS3) Local Loop	Negotiated
6. Foreign Exchange Services:	
(a) 1 - 9 Lines	21 days
	RFTR 10 days
(b) 10 or more Lines	Negotiated

Note:1.All Days are business days

2.SMARTS Clock is a system that analyzes work required on an order and compares it to available work forces. Local supervisors input the work force availability on a daily basis in advance. The SMARTS Clock fills up a day's schedule on a first in first out basis until 90% of available force is scheduled. The available work force works both maintenance and installation. Reseller and network element order are in the same queue as the Telephone Company's end users. Intervals can be as short as one day and in most cases, less than five days.

3. Negotiated intervals are dependent on force and facility availability and complexity of services.

Definitions:

Metrics:	Definition:
· Number of Installation Orders	Total orders received and completed. Note: There may be multiple orders per TC Purchase Order Number
· Average Interval - Offered	Average number of days between application date and committed due date. For orders received after 3 p.m., the next business day is considered the Day 0 application date. The application date is the date that a valid service request is received. Separate reporting by volume of lines for POTS services.
· Average Interval - Completed	Average number of days between application date and completed date. Completion date = date noted on Service Order as completed.
· % completed in 1, 2, or 3 business days - Dispatch	For those orders, requiring physical outside dispatch with less than 5 lines per order, the % of all lines (on orders with less than 5 per order) that are actually completed in 1, 2, or 3 business days. The denominator excludes Hot Cuts and lines on orders where the customer requests service beyond the offered interval (future dated orders).
· % completed in 1, 2, or 3 business days - No Dispatch	Similar to previous metric, except for those orders, not requiring physical outside dispatch
· % Completed w/in 4, 5 or 6 business days - Total	All orders, less than 5 lines per order, the number of lines completed in 4,5 or 6 days. Excludes future dated orders and hot cuts.
· % Missed Appointment - NYT - Total	% of all lines ordered, the % where there was a missed appointment due to a NYT problem.
· % Missed Appointment - NYT - Dispatch	Same as previous, however, only for those lines, where dispatch was required to complete the order.
· % Missed Appointment - NYT - No Dispatch	Same as previous, No dispatch required.
· % Missed Appointment - Facilities	% of Orders with missed appointments due to lack of facilities.
· Average Delay Days - Facilities Miss	For Orders with Facility misses, the average number of days between committed due date and actual completion date.
· % Installation Troubles w/in 7 or 30 Days	For Lines/Circuits Installed, the % of lines where a Network Trouble is reported within the first 7 or 30 days.
· % Missed Appointment - Customer	% of all lines ordered, where there was a missed appointment for customer reasons.
· Total Number of Troubles Reported	Total Troubles Reported by Customer, includes CPE, Excludes (NYT) Employee Administrative Reports, and Subsequent Reports..
· Network Trouble Report Rate	Total Initial Customer Troubles reported by customer, where the trouble disposition was found to be a network problem. (Disposition Codes 3, 4 and 5) per 100 lines/circuits in service. Excludes Subsequents, CPE, and Not found troubles.
· Network Trouble Report Rate - Loop	Same as above, Disposition Codes 3 and 4 only
· Network Trouble Report Rate - CO	Same as above, Disposition Code 5 only
· % Missed Repair Appointments	For Initial Customer Trouble Reports, found to be network troubles (disposition codes, 3, 4 and 5), where the actual restoration time occurs after the committed restoration time.
· Mean Time to Repair - Total	For Initial Customer Trouble Reports, found to be network troubles, the average time from trouble receipt to trouble clear time. Disposition Codes 3, 4 and 5.

·	Mean Time to Repair - Loop Trouble	Same as above, but for Disposition Codes 3 and 4 only
·	Mean Time to Repair - CO Trouble	Same as above, but for Disposition Code 5 only.
·	% Out of Service > 2, Hours	For Network Interconnection trunk Troubles only: the percent out of service trunks cleared in greater than 2 hours.
·	% Out of Service > 4, 12 or 24 Hours	The percent of network troubles out of service, cleared in gre than 4, 12 or 24 hours.
·	% Cleared within 24 Hours	The percent of all troubles (found to be network troubles) cle in 24 hours
·	% Repeat Reports w/in 30 days	The percent of troubles that originated as a disposition code 3,4,5,7,8, 9,10, or 11 that have an additional trouble within days that has a disposition code of 3,4, or 5. Initial troubles Excludes customer action, front end close out (NYT) and CP found troubles.
·	% Final Trunk Blockage	
·	% Subsequent Trouble Reports	Additional customer originated trouble reports reported while trouble is still pending resolution.
·	% CPE Troubles	% of all troubles reported where the found trouble is a CPE disposition. (dispositions code 12 or 13)
·	% No Trouble Found	% of all troubles reported where there is no trouble found or OK (dispositions code 7, 8 and 9)
·	% No Access	% of all troubles, where there is no customer access available before the commitment time. (disposition code 6)

Statistical Methodology for Determining Parity

This Attachment describes Bell Atlantic's approach for measuring parity from a statistical perspective. A large number of performance measures have "parity" as the standard. Bell Atlantic has worked with a number of statisticians, both internally and externally to identify the appropriate statistical model for evaluating parity. These models were reviewed in the New York PSC Service Proceeding and have been adopted based on consensus of the participating carriers as a means to evaluate performance during 1998. The Local Competitors Users Group (LCUG) also recognizes the importance of statistical evaluation of performance and is in the process of developing/recommending a statistical model. Absent that model, or any other proposed by a CLEC, Bell Atlantic believes the following to be a sound approach, commonly used in business today.

Performance parity is not a simple matter of comparing one number to another. Several factors come into play when determining if a performance level is indicative of disparate treatment. Equivalence must be measured from a statistical perspective. Essentially, this means determining the probability of drawing a sample from the entire "population" with the same characteristics. This is generally referred to as "sampling error". Even though CLEC performance is 100% of their data, to evaluate parity, one must assume that their orders/troubles are like a sample of Bell Atlantic's end users. In other words, if one were to draw a random sample of the same size of Bell Atlantic's end users as CLEC end users – what is the probability that it would be an exact match of the entire population. Repeated samples, even of large sample size have some, albeit minor variation. This model provides a statistical evaluation of such sampling error.

Statistical tools can be used to measure "sampling error." This measures the likelihood of drawing a sample with particular characteristics from a large population. The larger the sample size, the less likely it is to be far from the mean of the sample. The basic underlying assumption in the use of this model is that if one were to draw samples from a population, the result of repeated sampling would yield a Normal distribution. The underlying theoretical statistical distribution for counted variables is the standardized normal distribution, and the statistic calculated as the index is Z. Larger absolute values of the Z statistics are less likely to appear due to random or chance factors. Consequently, when an extreme value of Z is observed, it raises suspicion that the process the Z statistic estimates may be "out of control," or stated in terms of parity compliance. Bell Atlantic and the CLEC customers are not being treated similarly. There are two types of performance variables included in the performance report area: Counted and Measured. A Counted variable is one where each incident has the possibility of one of two outcomes, such as a yes, or no answer. Typically, percent measures such as "Percent Missed Appointments" are Counted measures. A Measured variable can have a variety of performance results. Mean Time to Repair or average intervals are measured variables. For each type of variable, there are different formulas to use to measure the probability of a sample matching the population. Both formulas are included in this Attachment.

1. **For Performance measures where the measure is a yes or no on each measured item: (i.e., % met or not met):**

Statistical Methodology for Determining "Parity" Range

Measurement Objective:

To determine if the level of service provided to CLEC is, on average, similar to or different from the level of service Bell Atlantic provides to its own end users.

The following methodology applies to service in which each instance of its provision, the outcome can be categorized as a success or a failure, e.g. was the appointment missed? Was a customer's line out of service for more than 24 hours, etc.

Now, let x_{ij} = the ith customers score on service; where

            x_{ij} = 0 if the outcome is categorized as a success

            x_{ij} = 1 if the outcome is categorized as a failure

More specifically, let

$$\sum X_{1ij} = \text{the number of CLEC customers' instances of service categorized as a failure}$$

The standard of service against which the instances of service to CLEC customers will be compared is the average of that provided by Bell Atlantic to its own end users, viz.

$$P_{0j} = \frac{\sum X_{0ij}}{N_{0j}} \quad \text{where } N_{0j} \text{ is the number of instances of provision of service j to Bell Atantic's customers}$$

The service index calculated for CLEC for service j and which will be compared against the service standard P_{oj} is given by:

$$P_{1j} = \frac{\sum X_{1ij}}{N_{1j}} \quad \text{where } N_{1j} \text{ is the number of instances of provision of service j to CLEC's customers}$$

It is assumed that N_{0j} will be large relative to N_{1j} ; and that N_{1j} may in fact, for certain j, be small.

The assumption can be made that the N_{1j} constitutes a sample taken from a larger population comprised of N_{0j} ; i.e., instances of service provision like those provided to BA customers. In this case the N_{1j} are not technically a subset (i.e., sample) of N_{0j}. But for the purposes of the model we assume that if CLEC customers are being treated the same as Bell Atlantic customers, then the distribution of the x_{0ij} and the x_{1ij} should be identical, hence our viewing N_{1j} as a sample of N_{0j}.

If such an assumption is correct then the value P_{1j} should be similar to the value P_{0j}. If it is not correct, then the two values would be expected to be different with the magnitude of the difference reflecting how different the two populations are, and by implication, how different the service level to each.

The question that arises is how close must P_{1j} and P_{0j} be to conclude that the two populations received similar levels of service and how different must they be to conclude they did not.

If we assume N_{1j} is a sample taken from a universe identical to the BA universe, then it is possible to derive the distribution of possible values of $P1j$ that could occur when drawing a sample of size N_{1j} from such a universe. If N_{1j} is adequately large, (vix. if N_{1j} is greater than 30) these values will follow a normal distribution and have:

$$\text{Expected value} = E(x) = N_{1j} \times P_{0j}$$
$$\text{and}$$
$$\text{the Variance} = \text{Var}(x) = N_{1j} \times P_{0j}(1-P_{0j})$$

If the CLEC population is in fact identical (or very nearly so) to the Bell Atlantic population, then most values of P_{1j} would lie close to P_{0j}, and if the populations were not identical than most values of P_{1j} would lie further from P_{0j} with the magnitude of the differences reflecting how different the two underlying populations are and, by implication, how different the level of service provided the two populations.

It is possible to evaluate how likely it is that the N_{0j} and the N_{1j} instances of service are, on average, the same by evaluating how likely it would be by chance alone to observe a difference as large as the one in fact observed, viz $P_{0j} - P_{1j}$.

The procedure for performing this evaluation is as follows:

1. Calculate the Bell Atlantic service standard for service j as follows:

$$P_{0j} = \frac{\sum X_{0ij}}{N_{0j}}$$

2. Calculate the level of service provided to CLEC as follows:

$$P_{1j} = \frac{\sum X_{1ij}}{N_{1j}}$$

3. Calculate an index of service level comparability, z, as follows:

$$z = \frac{P_{0j} - P_{1j}}{\sqrt{\dfrac{P_{0j}(1 - P_{0j})}{N_{1j}}}}$$

4. Evaluate the probability of similar or dissimilar services for Bell Atlantic and CLEC customers as follows:

< -1.645
- Probability is high that CLEC customers are more poorly served

-1.645 to -0.84
- Probability is moderate that CLEC customers are more poorly served

-0.83 to 0.83
- Probability is weak that service to CLEC customers are poorly served, or the probability is high that CLEC customers are served the same as Bell Atlantic, or the probability is weak that CLEC customers are better served than Bell Atlantic.

> 0.83
- Probability is moderate to high that CLEC customers are better served than Bell Atlantic.

2. For Performance measures where the measure is a variable measure: (i.e., cycle time):

Measurement Objective:

To determine for those services for which performance level is measured as an elapsed time, if the level of service provided to CLEC is, on average, similar to or different from the level of service Bell Atlantic provides its own end users.

Methodology:

The following methodology applies to services in which each instance of its provision, the outcome is represented as a measurement of an interval of time, e.g. 10 minutes, 2.5 hours, 3.5 days, etc. For example, "time to restore service."

Define the variable X, as duration of interval being measured, e.g. time to restore service in hours

Now, let N_j = the number of instances of service j for Bell Atlantic customers

n_j = the number of instances of service j for CLEC customers

x_{ij} = Bell Atlantic's ith customer's score on service j $i = 1,2,3...N_j$

x'_{ij} = CLEC's ith customer's score on service j $i = 1,2,3...n_j$

1. Calculate the _average_ duration for service j for all Bell Atlantic customers as follows:

$$\text{Average duration of Bell Atlantic customers} = \mu = \frac{x_{1j} + x_{2j} + x_{3j}...x_{Nj}}{N_j} = \frac{\sum_{i=1}^{N_j} x_{ij}}{N_j}$$

2. Calculate the _standard deviation_ of the duration scores on service j for all Bell Atlantic customers as follows:

Standard deviation of Bell Atlantic customers' scores =

$$\sigma_x = \sqrt{\frac{(x_{1j} - \mu)^2 + (x_{2j} - \mu)^2 + (x_{3j} - \mu)^2 + ...(x_{Nj} - \mu)^2}{N_j}} = \sqrt{\frac{\sum_{i=1}^{N_j}(x_{ij} - \mu)^2}{N_j}}$$

3. Calculate the _average_ duration for service j for all CLEC customers as follows:

$$\text{Average duration of CLEC customers} = \overline{X}'_j = \frac{x'_{1j} + x'_{2j} + x'_{3j}...x'_{nj}}{n_j} = \frac{\sum_{i=1}^{n_j} x'_{ij}}{n_j}$$

4. Calculate an _Index_ of parity:

Having determined the following values:

     N_j = the number of instances of service j for Bell Atlantic customers
     n_j = the number of instances of service j for CLEC customers
     μ = the average duration for all Bell Atlantic customers
     σ_x = the standard deviation of duration scores for all Bell Atlantic customers

$$\overline{X}_j' = \text{the average duration for all CLEC customers}$$

Derive an index of parity as follows:

$$\text{Index of Parity} = t = \frac{\overline{X}_j - \mu_x}{\dfrac{\sigma_x}{\sqrt{n_j}}} \quad ,$$

where values of the index less than 0.0 indicate CLEC customers are being serviced on average with less delay (i.e. better) than Bell Atlantic customers, values of the index greater than 0.0 indicate CLEC customers are being serviced on average with more delay (i.e. worse) than Bell Atlantic customers,

and

where greater absolute values of the index, t, indicate increasingly less likelihood that the observed differences between CLEC and Bell Atlantic customers is due to chance variation, or what is called sampling error, and greater likelihood the difference is due to other than chance factors.

5. *Interpret the Index of Parity* by referring to the *Parity Index Translation Table* and following these steps:

   a. Note the value of n_j as determined previously, and calculate the value $n_j - 1$
   b. Locate the value of $n_j - 1$ in the first column of the parity index translation table
   c. Inspect the ranges of values of t in the row of the table corresponding to your value of $n_j - 1$, locating the range containing the value of t corresponding to the one you calculated.
   d. Look at the top of the column containing the value of t corresponding to the one you calculated and read the interpretation of the calculated index.

FORUM TO RESOLVE QUESTIONS OF INTERPRETATION AND PROCESS AND RECORD KEEPING

Preface

This process is intended for use in resolving issues and questions relating to the ongoing interpretation and implementation of the interim guidelines. Any questions regarding the applicability of these guidelines may be referred to Staff.

Any parties who wish to avail themselves of the mechanism outlined below may do so; however this should not be taken to mean that the guidelines supersede dispute processes outlined in interconnection or other agreements entered into by the parties, or with the Public Service Commission or other state or federal regulatory bodies.

Confidentiality will be addressed in the ground rules established by the team.

I. INTERPRETATIONS OF GUIDELINES AND PROCESS QUESTIONS

A. A team comprised of staff and industry members, 12 total, will meet at least on a monthly basis, to resolve issues regarding the interpretation of the interim service standards guidelines and any issues regarding the process of implementing the standards. Staff will facilitate these meetings. Consensus will be used as a decision making model.

B. In those situations where consensus cannot be reached within 30 days of the meeting date at which the issue of interpretation or question of process was raised, the matter will go to the Administrative Law Judge, who will facilitate consensus.

II. RECORD KEEPING

Records of each discussed issue, including any issues or root cause analysis brought to the attention of the team, will be maintained and compiled by the team. This compilation will include all discussed issues and identify if consensus was or was not reached. In addition, this compilation will be retained for later submission to the Commission.